No 38 G

80 South 8th

Passed March 6th 182

An Inaugural Essay on Strictures of the Urethra

For the Degree of Doctor of Medicine in the University of Pennsylvania.

By Lynch F. C. Deas of Charleston S. C.

January 2. 1828

Su
In
to
ou
=u
=te
ser
=ce
an
=n
the
in
nity
been
I am
work
It w
Symp

On Strictures in the Urethra

In compliance with a regulation of this Institution requiring each Medical Student to offer a Thesis on some medical or surgical subject before graduating I submit the following on Strictures in the Urethra. I have selected this subject being one which I have seen several cases of while studying under my preceptor Dr. B. B. Simons, by whose polite indulgence and under whose inspection I had an opportunity frequently of introducing the Bougie and the Catheter. Tho there was nothing remarkable in any of the cases still it gave me an opportunity of seeing a great deal which I should have been obliged to take upon the assertion of another. I am indebted for my remarks principally to the works of Sir E. Home and Mr. Bingham. —

It will be necessary to consider the nature causes symptoms and treatment of the disease in its

dif
of th
=je
=ne
Ma
ith is
othe
enl
in
intr
sens
asto
the
mu
or to
=certa
is not
=jec
Form

different stages. - In the first place The Nature of the Membrane of the Urethra. It has been a subject of much discussion and is not yet determined wether this membrane be muscular or not. Mr. Hunter and Sir E. Home are of opinion that it is muscular; Mr. Charles Bell. Mr. Shaw and others that it is not. Certain it is that the Urethra enlarges in the passage of the Urine and contracts in the ejection of the semen; also any one who introduces a bougie often will at times be sensible of so powerful a contraction around it as to prevent its passing on without injury to the parts. Wether this contraction be owing to muscularity in the membrane of the Urethra or to the muscles surrounding the penis is uncertain; but as the determination of this point is not important to the consideration of the subject I shal leave it and go on to consider The Formation of Strictures. - This membrane of the

Mre
mu
=ci
if
afs
Spa
the
con
Stre
=bin
tra
the
in
from
tha
are
are
in g

Urethra like all other structures which either are muscular, or under the influence of muscula=
=rity is liable to spasmodic contractions. Sir E. Home remarks if upon the removal of the spasm the canal assumes its natural shape it is called simple spasmodic stricture; but if after the removal of the spasm it does not assume its natural form it constitutes a permanent stricture. A permanent stricture tho not necessarily may also be spasmodic ~~wether seperate or combined~~ wether seperate or com=
=bined it may be defined, as a contraction of the transverse fibres of the membrane which forms that canal. Sir E. Home has been particular in ascertaining the dimensions of the Urethra from which he has adduced the following fact that the parts of the Urethra most liable to stricture are those which are naturally the smallest, these are at 7 inches which is just behind the bulb, next in frequency 4½ inches from the orifice of the glans

some
ti
Sh
the
by
th
the
of
afte
in
kin
are
they
says
or h
as a
this
mo
and

sometimes near the external orifice and sometimes even the orifice itself is the seat of stricture. Strictures vary in their appearance and number the most frequent and simple is that described by authors as having the appearance of a pack thread tied around that part of the canal. Sometimes there is only one or two strictures in different parts of the canal sometimes a series of strictures one after the other forming an irregular orifice in that part of the canal, this last is very difficult and to treat. The causes of stricture are said to arise from Gonorrhea Mr. Hunter thought this never arose from this cause in his practice and in case only it arose from neglected or improper astringent injections ~~[illegible]~~ mentioned as a cause of stricture I did not think this a cause of stricture either however believe most ~~[illegible]~~ surgeons attribute it to venereal and astringent injections to be three of the most

frequent causes of stricture. Retracting the act of coition is an excessive frequent instance and a cause of stricture. These acts bring on spasmodic contraction and in this way produce strictures. Mr. Bingham says spasmodic strictures almost always precede permanent ones. Stone in the bladder, diseased prostate gland, a blow in the perineum or in short anything which produces great irritation in the Urethra may be a cause of stricture. Some of the above mentioned causes are frequently an effect of strictures and sometimes independent diseases which are confounded with strictures in more particularly of this when mentioning diseases which are frequently mistaken for stricture. It may be mentioned here that some constitutions are natural predisposed to strictures, so that they may rise at a very early age from the slightest or even causes. Symptoms of stricture. Symptoms of stricture

are both local and constitutional. First The Local Symptoms only symptom mentioned in the commencement of the disease is a diminution in the stream of urine which is not generally very perceptible so that the disease may exist some time without the knowledge of the person and the first warning which he gets is a difficulty in passing the urine. As the disease advances new and more evident symptoms are perceived. The urine is voided more frequently does not pass without considerable effort and some pain there is an effort to eject the last drops of urine and some strain when they are voided, nocturnal emissions, a slight discharge from the urethra which is increased by catching cold to which patients labouring under stricture are peculiarly liable. In an sudden change from heat to cold the urine neither entirely [illegible] or passes only in drops. C. H. Bingham

has also mentioned as a symptom of stricture shooting pains in the perineum in the glans penis around the loins and down the thighs. Also in stricture the urine splits and so issues out in a forked stream. The constitutional symptoms of stricture. The most common symptom of this kind is a complete paroxysm of fever and ague. The cold fit is extremely severe, this is followed by the hot stage, after which there is a copious perspiration. Sir E Home remarks that this attack differs from the common fever and ague in the copiousness of the perspiration. The fits do not return periodically and seldom more than twice. A disordered state of the stomach is a frequent constitutional symptom of stricture. It has been remarked that this state of the stomach has not yielded to medicines but has got well on the removal of the stricture.

Duc
ii.
qu
tum
the
vice
all
the
not
an
oc
peo
whe
state
pro
the
the
tum
the

Diseases whose symptoms resemble those of Stricture. Sir E Home says that inflamation of the Urethra from Gonorrhoea frequently puts on all the Symptoms of Stricture even a difficulty in passing the Urine and diminution in the size of the stream; but he remarks this difference that before all the Urine is voided the difficulty goes off and the stream assumes its natural size which is not the case in Stricture. He also remarks that an irritable state of the bladder from the sympathy which exists between it and the Urethra produces a spasmodic contraction in that part which may be mistaken for Stricture. A diseased state of the Prostate gland is frequently mistaken for Stricture. Sir E Home remarks that when the Prostate gland is enlarged it projects into the neck of the bladder and it is from this circumstance that it is so often mistaken for Stricture this enlarged state of the Prostate may be detected

by passing the finger into the rectum and feeling it. Tho by the above symptoms we may generally be pretty certain when a stricture is present, we should not determine positively before passing the bougie. —

Treatment of Strictures.

"To effect a cure in this disease means are employed with two intentions: either to bring the contracted part back to its original state which is done mechanically by the use of the bougie or to destroy the obstruction for which the Caustic is used." There is a third mode of treatment revived and practiced by Dr. Kusick, that is, dividing the stricture by a stilet. Each of the above modes of treating strictures shall be separately considered: but I would first make a few remarks on the Treatment of Spasmodic Strictures. The usual mode of treating Spasmodic Strictures is by means of bloodletting, Opiates and the warm bath. Mr. Tyrrell speaks of using the Belladona

with great success in cases of Spasmodic Stricture. He armed the bougie with the Belladonna in the same way that a bougie is armed with Caustic and introduced it into the urethra as far as the obstruction. Mr. Cline has succeeded with the Muriated Tincture of Iron when every other means had been unsuccessful; he gave 5 or 10 drops every 2 or 3 hours. Mr. Pen discovered that the cold bath might be used with decided advantage, the idea occurred to him from the circumstance of the contents of his bladder being always expelled upon immersion in cold water. I will now consider the Treatment of Permanent Strictures, and first: By the Bougie alone. Before considering the use of the bougie I would remark that there are four varieties of this instrument, the Blister the catgut the flexible gum and the metal each of which have their advocates. The mode of introducing the bougie. The best directions for

introducing the bougie are perhaps given by Mr. Bingham. He says "if bougies are intended to be introduced beyond the bulb of the Urethra they should be turned up at the end so as to give it a direction upwards after it passes the bulb. Having warmed, oiled and bent the end of the bougie, take hold of the penis, just behind the corona glandis between two of the fingers in such a manner as not to compress the Urethra, then elevating the penis to such an angle as it would assume in a state of erection introduce the bougie and pass it on gradually until it enters the bulb then depress the hand so as to allow it to enter the membranous part of the canal and pass it on into the bladder". Mr. Bingham further observes that too small a bougie ought not to be used as it is apt to hitch in the lacuna and gather a fold of the Urethra before its point

and

and in that way a false passage is apt to be made. Cure of Strictures by the bougie alone. Sir E. Home observes that in the early stage of stricture when the urethra is not much irritated, the bougie may be used with advantage and if the stricture by this means can be dilated to the natural size of the canal in a few weeks, a cure can be effected. The only fear he says under these circumstances is, that as the bougie acts purely mechanically, it will not take away the disposition in the part to form stricture and the disease is apt to return. So that it is important that the use of the bougie should be continued some time after the urethra has obtained its natural shape, so as to take off as much as possible the disposition in the part to contract. It is also important that the size of the bougie should be very gradually increased. The time of keeping in the bougie and the

frequency of applying it must entirely depend upon the constitution and feelings of the patients. Mr Bingham never keeps the bougie more than 5 or 10 minutes in the Urethra at the commencement and repeats this every third day. After a time when the Urethra becomes more familiarized to its use it may be repeated oftener. Before entering on the treatment of stictures by caustic I [illegible] make a few general remarks. Wiseman is said to have been the first who suggested the idea of using caustic in the cure of stictures but that he mentioned no case treated with it by himself or any one of his day so that Mr Hunter who brought it into practice deserves all the credit that the discovery of so valuable a remedy claims. But it remained for Sir E Home by his enthusiastic endeavours to enlighten and benefit mankind by its general introduction into practice. Mr Hunter made use of

the caustic only with the intention of destroying the part which obstructed the passage of the urine. Sir E Home used it also for the purpose of allaying the irritability of strictures as well as destroying the obstruction. He mentions several cases where the Urethra was so irritable as to prevent the use of bougies, which has yelded to the application of caustic. Previous to the use of caustic it was frequently necessary to lay open the diseased urethra and pass a flexible catheter through the divided parts into the bladder, and even portions of the diseased Urethra have been dissected out. The above operations however even at the present day in particular cases are resorted to with great advantage. Mode of applying Caustic to Strictures. The instrument which Mr. Hunter first made use of was a silver cannula and stiles at the end of which a piece of lunar

caustic the shape of a pencil was fixed, this was gently pushed down to the stricture against which it was pressed as long a time as was thought proper after which the caustic being protected by the canula, the whole was withdrawn. This mode of applying the caustic Mr. Hunter soon found liable to several objections; one was that a silver canula could not adapt itself to the flexible state of the urethra, so that when the ~~canula is~~ canula is forced the caustic is apt to burn the side of the urethra or to make an oblique orifice through the stricture. Another objection is that from the unyielding nature of the canula it is apt to produce great irritation in the urethra. An improvement on the above mode of applying the caustic soon suggested itself and was adopted by Mr. Hunter, it was by means of an armed bougie which was used as follows.

Take a bougie of such a size as may be readily passed down to the stricture having inserted in the end of it a piece of lunar caustic, permit it to remain in contact with the stricture a sufficiently long time which must be regulated by the feelings of the patient. This mode of arming the bougie was found objectionable as the caustic was apt to fall out and injure a healthy part. etc. Past a dealer in bougies discovered a mode of securing the caustic which is described as follows. In making the bougie a piece of wire is inserted in the end &c. to the depth that you wish the caustic end, this wire is withdrawn while the bougie is warm and the caustic is inserted in its place so that upon cooling it is cemented to the sides of the linen which in a great one assured prevents the danger of its falling out. There is a third mode of applying the caustic to strictures

which appears to remedy the disadvantages while it combines the advantages of both the above mentioned modes It is by means of flexible gum cannula through which a bougie is passed this method allows us to apply the caustic in powder or in the form of ointment without injury to the healthy part of the urethra, this is done by putting some of it on the point of the bougie and passing it through the cannula down to the stricture or putting some of it in the end of the cannula and passing the bougie down to and pushing the caustic before it against the stricture. Mr Flowerdew was the first who recommended the use of caustic in powder and made up into ointment. It must not be neglected previous to the application of the caustic always to ascertain as near as possible the shape and depth of the stricture by means of a soft wax bougie. I will now consider

briefly the use of the different kinds of caustic and the symptoms produced by caustic in the progress of the cure. Of the Argentum Nitratum. This is the only application mentioned by Mr. Hunter and Sir E. Home as having been used by them. The success of Sir E. Home in the treatment of Strictures speaks a great deal in favor of this remedy. After a bougie has once passed through the stricture Mr. Bingham then recommends the Argentum Nitratum in the form of ointment. Of the Kali Purum Mr. Whately was the first who introduced the use of the Kali Purum. His mode of applying it was by inserting a piece of caustic about the size of a pinshead in the point of the bougie. This mode is objectionable for reasons already mentioned. The most general mode of using it is in powder. It is difficult to say the particular cases to which this or the

tum Nitratum are applicable; it is however sufficient to know that each have been successfully used, and that one may succede where the other has failed.

Of the Potassa sub Carbonas. In use of this remedy was introduced by Mr. Bingham he says, "Being induced from the Kali Purum acted beneficially & did not produce any abrasion of the stricture but that it merely acted by allaying irritation and exciting copious secretion from the part I was led to conclude further that if this opinion was correct precisely the same advantage would be derived from the Potassa sub Carbonas." His experience afterwards verified his opinion. Mr. Bingham remarks that though the effects of this remedy are very much the same as those of the Kali Purum it has some advantages the Kali Purum being much more violent than it. And as there are cases

which require great delicacy of treatment the vitriola sub carbonas is peculiarly adapted to such. Even in obstinate cases it is preferable as a much greater quantity may be used with less risk. Mr. Bingham used this preparation in three ways either by introducing some of it on the point of a bougie or putting some of it together with smoothed in the end of the canula and pressing it against the stricture by means of a bougie or by passing an armed bougie through the canula. Mr. Bingham says that the alkalies in general have the property of lessening irritability and exciting the absorbents when applied to any part of the body. Of the Nitrous Excoriation. Almost every thing which has been said of the Vitriola sub carbonas is applicable to this remedy in the healing of strictures. As Mr. Bingham mentions several cases successfully treated

by
fre
fre
the
com
Ill
by the
com
to
use
use
also
and f
able
the
Gura
hac

by the Nitrous Exsiccatum alone we may frequently when other applications have failed or are slow in producing a cure vary the treatment successfully by the use of this remedy. of the Unguentum Hydrargiri Fortius. Mr. Bingham says that he has cured six cases by this remedy: In three of these other remedies had been employed without success but immediately improved and were finally cured under the use of this remedy. It may not be altogether out of place to mention that Mr. Bingham has used it successfully in obstinate cases of gleet, also in Phymosis. The usual mode of applying it is by smearing some of it on the end of a bougie and passing it through the stricture. Mr. Bingham attributes a preference to this remedy in the treatment of strictures, how far this opinion is correct further experience will have to prove. Perhaps his preference is in

some measure owing to the remedy being now with himself. Having mentioned so far as I know all the substances that have been made use of in the treatment of stricture I shall now mention some of the symptoms noticed by Sir E Home as being produced by caustic in the progress of the cure. The sensations from the application of caustic are heat and soreness in the part, this pain is felt some time after the application of the caustic. The duration varies in different persons. There is frequently hæmorrhage from the part to which the caustic has been applied. Sir E Home says that this has not generally been found attended with bad consequences. Another effect arising from the use of caustic is a fit of fever and ague. Sir E Home says that this often comes on after a stricture of long standing has been destroyed. The only treatment he advises in these cases

is opening medicines. The above symptoms we observe are frequently so severe after each application of the caustic as entirely to prevent its use. In some cases of obdurate strictures also, from the frequency of applying the caustic such irritability has been brought on in the urethra as to prevent its use. It is probably from these symptoms as these and from the danger of making false passages that some surgeons have been averse to the use of caustic in the treatment of strictures. - It remains now to mention the third and last though not, perhaps the least effectual mode of treating strictures, viz, division by the stilet as performed by Dr. Physick. The instrument made use of by Dr. Physick is a sort of armed concealed a canula that may be pushed forward or retracted at pleasure. That this instrument is peculiarly adapted to certain cases, we do not want

the
with
cont
said
ona
cau
the
ma
stile
the
the
duc
the
stor
ortie
after
be ne
in de

the evidence of some of our most eminent surgeons. Dr. Gibson after mentioning the success with which this instrument has been and continues to be used in the hands of Dr. Physick says "I myself have likewise succeeded in a great many cases, in effecting a perfect cure after bougies, caustic and other measures had entirely failed. Before the Clinical class in the Alms house infirmary a few years ago, I perforated with the stilet a stricture of many years standing near the bulb, which had resisted for several years the united efforts of several surgeons to introduce an instrument of any description into the bladder. In three minutes after the division of the stricture a catheter entered and the patient experienced the greatest possible relief." After having mentioned the above case it would be needless for me to advance any thing further in support of the utility of this mode of treating

sta
mo
pre
ne
con
um
Pre
ian
the
way
gen
in h
vis
in h
dur
cate
form
cult
lately
the
pre

strictures. I believe I have mentioned all the various modes of treating strictures, unless perhaps some peculiarities of the French Surgeons which I have not had an opportunity of seeing described. Before concluding this subject I would make a few remarks on some of the consequences of strictures. One of the consequences of stricture says Mr. Tyrrell is an extravasation of Urine into the Perineum, the Urethra gives way and the Urine finds its way into the Perineum Scrotum and integuments of the Penis. He says the operation for the relief of this complaint consists in the division of the stricture, and an incision is made in the raphe directly on it. The stricture is then divided from above downwards and immediately the Urine gushes out. Mr. Tyrrell has performed this operation frequently without difficulty and with success. He says there is a paper lately out by Mr. Shaw of London, in which the division of strictures is recommended in preference to the caustic. As I have not seen

it
im
of
ex
upo
Peru
ture
the
men
and
I wi
of S
dise
and
by the
it as
cured
which
have

it I can say nothing about it. An enlarged testicle is mentioned as existing frequently in consequence of strictures, arising from a sympathy which exists between it and the Urethra, and is only cured upon the removal of the stricture. Fistula in Perineo is another frequent consequence of strictures, though perhaps oftener from neglect in the treatment of strictures. Hydroceles are also mentioned by Sir E. Home as arising from strictures and to be cured upon the removal of the stricture. I would finally remark on the authority of Sir E. Home that there are many constitutional diseases arising from strictures in the Urethra and which have been unsuccessfully treated by the remedies usual in such cases, considering it as an independent disease, but have been cured upon the removal of the ~~disease~~ stricture which was the cause, proving the disease to have been merely a sympathetic one. —

Mon

Phil